

CLAIMS :

1. A method of automatic translation of sentences from a source language L_s selected from language L_1 to L_n to a target language L_t selected from languages L_1 to L_n comprising the steps of :
 - (i) providing grammars G_1 to G_n of all the languages L_1 to L_n respectively and a text 'S' in the source language L_s as inputs;
 - (ii) creating a unified grammar specification UG for the grammars G_1 to G_n ;
 - (iii) separating the input text 'S' in the source language L_s into a list of tokens using a lexical analyser for the source language L_s ;
 - (iv) setting a non-terminal symbol 'E' to the start symbol of the unified grammar specification UG;
 - (v) obtaining a set of grammar production rules P_e which define the rules to reduce a string of terminal symbols and/or non-terminal symbols to the target non-terminal symbol E from the unified grammar specification UG;
 - (vi) for each unified grammar production rule P in the set of grammar production rules P_e taking each symbol one by one from a list of terminal symbols and/or non-terminal symbols corresponding to the source language grammar G_s , determining whether it is a terminal symbol or a non-terminal symbol;

- (vii) for each terminal symbol obtained from the previous step, which is equivalent to a corresponding symbol in the list of tokens T of the input text in the source language L_s , considering the next symbol in said list of terminal symbols and/or non-terminal symbols corresponding to the source language grammar G_s and for each non-terminal symbol obtained from the previous step which refers to another non-terminal symbol E_s , of the unified grammar specification UG , repeating step (v) onwards with the new non-terminal symbol E_s ;
- (viii) if all the symbols in the said list of terminal symbols and/or non-terminal symbols corresponding to the source language grammar G_s match with all the symbols in the list of tokens T of the input text in the source language L_s , obtaining a list of symbols t corresponding to the target language grammar G_t from the unified grammar production rule P and for those symbols which do not match, repeating step (vi) onwards for the next unified grammar production rule P defined for the non-terminal symbol 'E';
- (ix) taking each symbol one by one, from the list of symbols t corresponding to the target grammar G_t and determining whether it is a terminal symbol or a non-terminal symbol;
- (x) for each terminal symbol obtained from the previous step outputting the symbol, and considering the next symbol and for each non-terminal

obtained from the previous step, obtaining another unified grammar production rule P corresponding to that non-terminal symbol and repeating the previous step with the new unified grammar production rule, till all the symbols in the list of symbols t corresponding to the target language grammar G_t are exhausted.

2. The method as claimed in claim 1, wherein the unified grammar specification UG , for the grammars G_1 to G_n of languages L_1 to L_n , is created by the steps of :

- (i) for every production rule P of the grammars G_1 to G_n of the languages L_1 to L_n , defining a unified production rule P_1 in the unified grammar specification UG having the target non-terminal symbol of the production rule P as its target non-terminal symbol; and
- (ii) for each grammar G_1 to G_n creating a list of terminal symbols and/or non-terminal symbols in the said production rule P_1 and adding each and every symbol in the list of terminal symbols and/or non-terminal symbols that are represented by the target non-terminal symbol in the production rule P to the said unified production rule P_1 and repeating previous step for the next production rule of the grammars G_1 to G_n .